

**Key Stage 4 Subject Timeline Year 9 to 11**

**Subject: Mathematics (Higher)**

**Exam Board: Pearson**

Year 9						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	Factors, multiples and primes revision Basic algebra Indices Surds introduction Sequences Ratio and proportion	Factorising Tables, charts and graphs Substitution Scatter graphs/pie charts Fractions revision	Fractions, decimals, percentages Percentages in depth Properties of shape (angles, parallel lines, interior/exterior angles)	Equations Inequalities Proportion Pythagoras	Perimeter and area Accuracy and bounds Linear graphs Coordinate geometry (V/T graphs included)	Real life graphs Transformations (PPE preparation and feedback)
Key skills and Concepts	Factors, multiples Expansion Rules of indices Rules of surds Nth term Quadratic sequences Substitution Ratio as a concept	Factorising Algebraic manipulation Understanding correlation Basic fractions calculations	Understanding fractions and percentages Spotting angle rules in parallel lines Understanding reverse percentages and compound interest	Solving equations and recap solving quadratics Solving inequalities Pythagoras	Perimeter and area of compound shapes, circles and more complex 2D shapes Bounds notation and calculation Understand V/T graphs and their applications To use $y = mx + c$	Understand gradient and y-intercept and their applications to V/T graphs To interpret real life graphs using the skills learnt above All four transformations to include negative and fractional scale factors
Threshold Concepts	Find factors and multiples Basic knowledge of algebra	Substitute into linear/quadratic expressions	Basic percentages and fractions Basic angle understanding	Solving one and two step equations Understand inequality signs	Substitution Area of triangle, rectangle and an understanding of perimeter	Basic transformations Understanding of straight line graphs
Endpoints	Understand how to find HCF, LCM Expanding surds and rationalising the denominator Finding nth term Substitute into a quadratic sequence	Know how to factorise linear and quadratic expressions and solve quadratics	Understanding fractions and percentages Spotting angle rules in parallel lines Understanding reverse percentages and compound interest	Solving equations and recap solving quadratics Solving inequalities Pythagoras, to include 3D	Perimeter and area of compound shapes, circles and more complex 2D shapes Bounds notation and calculation Understand V/T graphs and their applications To use $y = mx + c$	Understand gradient and y-intercept and their applications to V/T graphs To interpret real life graphs using the skills learnt above All four transformations to include negative and fractional scale factors
Assessment	Individual class formative assessment	End of term assessment for all classes	Individual class formative assessment	Individual class formative assessment	Individual class formative assessment	PPE

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Year 10						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	Proportion Conversion Straight line graphs 3D forms, cylinders, cones and spheres Pythagoras/Trigonometry Sine/cosine rules	Quadratics Simultaneous equations Quadratic formula Types of graphs Bounds Transformations	Graph transformations Histograms Standard form Surds Quadratics Sequences Substitution	Revision for PPEs Exam style questions Averages Angles in parallel lines Angles in polygons Circle theorems	Probability/Venn diagrams Pythagoras Trigonometry Cumulative frequency graphs Box plots Inequalities Transformations Similar shapes	Percentages Algebraic fractions Exchange rates Interest rates (simple/compound) Volume and surface area Misconceptions
Key skills and Concepts	$Y = mx + c$ Factorising into brackets Finding missing sides Finding missing angles Volume and surface area	Solving simultaneous equations Solving quadratics Trigonometry Bounds Transformations	Using quadratics Finding nth term Graph transformations Using loci and bearings Standard form calculations Manipulating surds Histograms	Exam style questions Averages recap Identifying and using circle theorems Finding angles	Finding probability Drawing Venn diagrams Finding missing sides Cumulative frequency graphs Inequalities Transformations Similar shapes	Rearranging formulae Percentages Simplifying algebraic fractions Solving algebraic fractions Finding volume/surface area
Threshold Concepts	Substitution Rearranging Use of calculator	Substitution Solving basic equations Factorising	Basic graphs Standard form understanding Basic surds	Averages Data collection and representation Angle notation	Substitution Pythagoras Using inequalities	Factorising Basic percentages Basic area/volume Understanding of exchange rates
Endpoints	Understand $y = mx + v$ Factorise correctly Find missing sides Calculate using proportion Find volume/surface area Calculate probabilities Use conversion graphs	Solving simultaneous equations Solving quadratics Trigonometry Using bounds Working with transformations	Transform graphs Use histograms Standard form calculations Manipulating surds	Exam style questions Averages Finding angles in lines/polygons Cumulative frequency graphs	Finding probabilities Using Venn diagrams Trigonometry Simplifying algebraic fractions Solving algebraic fractions	Calculate with percentages Solve algebraic fractions Use exchange rates Find volume/surface area
Assessment	Individual class formative assessment	End of term assessment	Individual class formative assessment	PPE	Individual class formative assessment	End of year assessment

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Year 11						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	Trigonometric graphs Further Trigonometry Circle theorems review Vectors Linear graphs Quadratic, cubic and exponential graphs inequalities Iteration Accuracy and bounds	Transformation revision Proportion revision PPEs Revision of algebraic fractions, solving equations Perimeter, area, circles 3D forms, volume, cylinders, cones, spheres revision	Compound measures Interior and exterior angles Standard form Functions Indices and surds Substitution Linear and quadratic sequences Solving quadratics Bespoke SOW following PPE	Bespoke SOW following PPE	Exams	Exams
Key skills and Concepts	Trigonometry graphs Using Trigonometry Similar shapes, scale factors Circle theorems Bounds					
Threshold Concepts	Circle geometry Similar shapes Substitution Linear graphs/quadratics	These are revision topics from previous years so previous knowledge from years 9 and 10				
Endpoints	Vectors and geometric proof Reciprocal, exponential graphs and area under curves Accuracy and bounds Construction, loci and bearings					
Assessment	In class formative assessment	PPE	In class formative assessment	PPE	GCSEs	GCSEs